**SOLICITATION NO. NNG14490137R**

**NASA Sounding Rocket Operations Contract III**
**(NSROC III)**

**ATTACHMENT S**

**TECHNICAL PERFORMANCE INCENTIVE FEE PLAN**

**~~MAY~~SEPTEMBER 2014**

# NASA Sounding Rocket Operations Contract (NSROC) III Technical Performance Incentive Plan

## I. INTRODUCTION

This Technical Performance Incentive Plan, in accordance with NASA FAR Supplement 1816.402-270, reflects the agreements between the Government and the Contractor regarding technical performance incentive fees available under the contract. It explains the applicability and implementation of technical performance incentive fee clauses contained in the contract.

## II. BACKGROUND

The NSROC III contract is a core services contract in support of NASA's Wallops Flight Facility. The core services contract is cost-plus-fixed-fee (CPFF) with technical performance incentives (TPI). The percentage split between the fixed fee portion and the TPI is 50/50. All work shall be performed under the core services contract, split between three areas: management and administration (reference SOW 2.1), a mission model (reference SOW 2.2), and a development and routine projects assignment (DRPA) model (reference SOW 2.3).

The fee structure for the core contract is depicted in Figure 1 below.

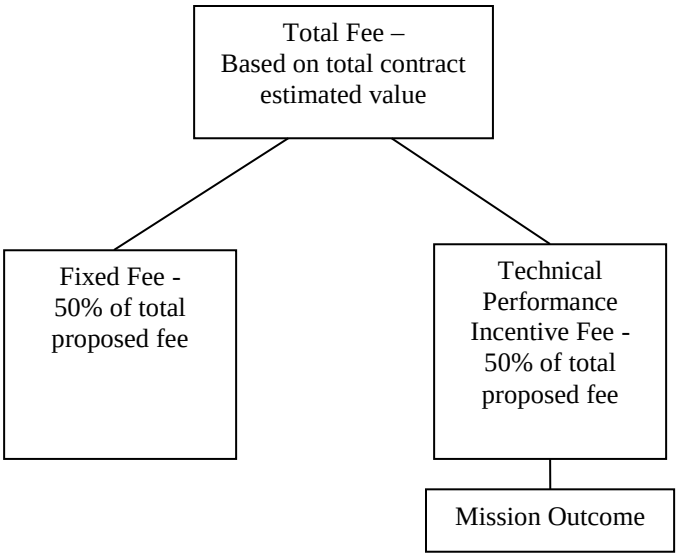


Figure 1. Fee Structure

~~CPFF services work orders will be issued for management and administrative functions as well as for DRPA projects.~~ Section 2.1 of the SOW provides a more complete description of the requirements for the management and administrative functions and Section 2.3 of the SOW provides a more complete description of the requirements anticipated to be assigned under the DRPA work orders. CPFF services work orders will be issued for DRPA projects. The fixed fee will not be based on performance metrics.

TPI work orders will be issued for individual sounding rocket missions and will be designated as Mission Work Orders (MWO). Each MWO will be assigned one of the four mission complexity levels (MCL) based on the characteristics and requirements associated with the specific mission in accordance with Section 2.2.1, Table 4 of the SOW. A MWO will require the full range of services from mission concept development through closeout activities as outlined in Section 2.2 of the Statement of Work (SOW). MWO will have a TPI fee associated with mission outcomes. Mission outcome performance metrics are based on the minimum and comprehensive success criteria that are established for each mission during the mission formulation phase (reference SOW 2.2.1) between the Principal Investigator and the Sounding Rockets Program Office (SRPO).

Technical performance incentives for the MWO closed out during the evaluation period will be evaluated at the end of each contract year (every 12 months) to determine the technical performance incentive earned for that period. The government will gather the data monthly and the contractor's performance shall be assessed on a monthly basis, but the contractor shall only be evaluated for technical performance incentive fee payments every twelve months. The operation of these technical performance incentives is detailed herein.

## III. CALCULATION

During each evaluation period, the contractor may earn technical performance incentive fee for the core services based on the mission outcomes (i.e. results relative to mission success criteria) and weighted by the mission complexity levels for the MWO closed out during the evaluation period. The results for the MWO closed during the evaluation period will be broken out by mission complexity level and by mission outcome according to Table 2.

Table 2. Evaluation Period MWO Results

| | | Mission Outcome | | | | Points Assessment | | | |
|---|---|---|---|---|---|---|---|---|---|
| **MCL** | **Number of Missions** | **Number of Comprehensive Success** | **Number of Minimum Success** | **Number of Failures (not fault of contractor)** | **Number of Failures (fault of contractor)** | **Earned Points** | **Max Points** | **Earned Weighted Points** | **Max Weighted Points** |
| MCL1 | | | | | | | | | |
| MCL2 | | | | | | | | | |
| MCL3 | | | | | | | | | |
| MCL4 | | | | | | | | | |
| Total | | | | | | | | | |

### Points Assessment Calculation

The first step in the calculation is to determine the number of earned points based on mission outcome and to determine the maximum points available for the evaluation period.

The earned points are calculated by taking the sum of the number of each mission outcomes per MCL multiplied by the corresponding mission outcome incentive fee multiplier, defined in Table 3.

***Earned Points for MCL1 = (# of MCL1 Comp Success * 3.5) + (# of MCL1 Min Success * 2.5) + (# of MCL1 Failures not fault of contractor * 1.5) + (# of MCL1 Failures fault of contractor * 0)***

The Maximum Points are calculated by taking the total number of missions by complexity level and multiplying it by the comprehensive success mission outcome incentive fee multiplier, defined in Table 3.

***Maximum Points for MCL1 = # of MCL1 Missions * Comprehensive Success IF Multiplier***

Table 3. Mission Outcome Incentive Fee Multiplier

| Mission Outcome | Mission Outcome Incentive Fee (IF) Multiplier |
|---|---|
| Comprehensive Success | 3.5 |
| Minimum Success | 2.5 |
| Failure (not fault of contractor) | 1.5 |
| Failure (fault of contractor) | 0 |

The next step in the calculation is to weight the earned points and maximum points by mission complexity level.

The Earned Weighted Points are calculated by taking the earned points for each MCL and multiplying it by the corresponding MCL multiplier, defined in Table 4.

***Earned Weighted Points for MCL1 = Earned Points for MCL1 * MCL1 Multiplier***

The Maximum Weighted Points are calculated by taking the maximum points for each MCL and multiplying it by the corresponding MCL multiplier, defined in Table 4.

***Maximum Weighted Points for MCL1 = Maximum Points for MCL1 * MCL1 Multiplier***

Table 4. Mission Complexity Level (MCL) Weighting Multiplier

| MCL | MCL Multiplier |
|---|---|
| MCL 1 | 1 |
| MCL 2 | 1.5 |
| MCL 3 | 2 |
| MCL 4 | 3 |

The final step in the calculation is to calculate the fee percentage awarded based on the earned weighted points relative to the maximum weighted points using the following formula:

***Fee Percentage Awarded = (Earned Weighted Points/Maximum Weighted Points)*100***

The Contracting Officer's decision as to the amount of technical performance incentive fee earned each evaluation period is a unilateral determination based on the established success criteria for the missions along with the established fee structure calculation and is not subject to the Disputes clause. All technical performance incentive fee payments for each evaluation period shall be final.

## IV. Mission Failures

There are two general failure scenarios that must be considered within the technical performance incentive fee structure. The first involves a failure of a system that is beyond the responsibility of the NSROC Contractor (to be referred to as "failure not fault of contractor"). The second scenario involves a failure in a contractor provided system (to be referred to as "failure fault of contractor"). The technical performance incentive fee awarded for a mission depends on the type of failure.

### Experiment Failures

The NSROC contractor is responsible for striving to ensure the scientific instruments function properly in flight. While the NSROC Contractor will not have direct involvement with the design and construction of the scientific instruments, they will be involved with the environmental testing of the entire payload stack during the pre-flight integration and testing process. It is the responsibility of the Sounding Rockets Program Office (and hence the NSROC contractor) to work to ensure (within limitations) that the scientific instruments are fully qualified as flight worthy. To ensure adequate testing is performed, the technical performance incentive fee is linked to the successful performance of the science instruments through the mission success criteria. Therefore, the contractor will receive the mission outcome incentive fee multiplier "Failure (not fault of contractor)" per table 3 in the event the scientific instruments fail to meet the mission success criteria.

### Contractor Failures

The NSROC Contractor is fully responsible for ensuring the vehicle and payload support systems perform properly in flight. The contractor will receive the mission outcome "Failure (fault of contractor)" incentive fee multiplier (per Table 3) if the failure is traced to the contractor's performance. **No technical performance incentive fee will be awarded for a failed mission where the cause of the failure is determined by the Government to be the responsibility of a contractor provided system or process.**

### Determination of Fault in the Event of a Failure

The Sounding Rocket Program Office will establish a Failure Investigation Board (FIB) to investigate all in-flight mission failures. The FIB will be comprised of NASA subject matter experts. The Sounding Rockets Program Office will make the determination of whether the failure will be classified as a "Failure (not fault of contractor)" or "Failure (fault of contractor)", taking into consideration the findings of the FIB. It is the responsibility of the contractor to adequately instrument the payload systems to monitor performance. In the event that monitoring

is not in accordance with sound engineering judgment and generally accepted standard practices, and this inadequacy prevents the failure investigation from determining responsibility of the failure within a reasonable degree of certainty, the Government will conclude that the fault lies with the NSROC contractor. In such case, the NSROC contractor will be ineligible to receive any technical performance incentive fee associated with the failed mission.

## V. EXAMPLES

The NSROC III mission model for contract year one (CY1) is given in Table 5.

Table 5. NSROC III CY1 Mission Model

| Launch Site | CY1: GFY2016 | | | | |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Total |
| WSMR | 2 | 1 | 2 | 3 | 8 |
| WFF | 1 | | 1 | 1 | 3 |
| PFRR | | 2 | | | 2 |
| KWAJ | | | | | 0 |
| ARR | 1 | | | | 1 |
| Australia | | | | 4 | 4 |
| FY Total Launches | 18 | | | | |
| MCL | Q1 | Q2 | Q3 | Q4 | Total |
| 1 | 1 | | 1 | | 2 |
| 2 | 1 | 1 | 2 | 5 | 9 |
| 3 | 1 | 1 | | 3 | 5 |
| 4 | 1 | 1 | | | 2 |

### Example #1

This example assumes that all of the MWO for the NSROC III CY1 Mission Model were launched and closed out within the first 12-month evaluation period. A total of 18 missions will be assessed of the MCL defined in the Table 5 mission model and the mission outcomes provided in Table 6.

With a fictional contract value of $65,000,000 for CY1 and a fictional fee percentage of 6% the total fee available would be $3,900,000 with 50% ($1,950,000) being fixed fee and the remaining 50% ($1,950,000) available for technical performance incentive fee.

Table 6. Example #1 Closed MWO Results

| | | Mission Outcome | | | | Points Assessment | | | |
|---|---|---|---|---|---|---|---|---|---|
| MCL | Number of Missions | Number of Comprehensive Success | Number of Minimum Success | Number of Failures (not fault of contractor) | Number of Failures (fault of contractor) | Earned Points | Max Points | Earned Weighted Points | Max Weighted Points |
| MCL1 | 2 | 1 | 1 | 0 | 0 | 6 | 7 | 6 | 7 |
| MCL2 | 9 | 7 | 1 | 1 | 0 | 28.5 | 31.5 | 42.75 | 47.25 |
| MCL3 | 5 | 2 | 2 | 1 | 0 | 13.5 | 17.5 | 27 | 35 |
| MCL4 | 2 | 1 | 1 | 0 | 0 | 6 | 7 | 18 | 21 |
| Total | 18 | 11 | 5 | 2 | 0 | 54 | 63 | 93.75 | 110.25 |

The Earned Points based on mission outcome for the closed MWO are calculated as follows:

*Earned Points for MCL = (# of MCL Comp Success * 3.5) + (# of MCL Min Success * 2.5) + (# of MCL Failures not fault of contractor * 1.5) + (# of MCL Failures fault of contractor * 0)*

***Earned Points for MCL1 = (1*3.5) + (1*2.5) + (0*1.5) + (0*0) = 6***

***Earned Points for MCL2 = (7*3.5) + (1*2.5) + (1*1.5) + (0*0) = 28.5***

***Earned Points for MCL3 = (2*3.5) + (2*2.5) + (1*1.5) + (0*0) = 13.5***

***Earned Points for MCL4 = (1*3.5) + (1*2.5) + (0*1.5) + (0*0) = 6***

*Total Earned Points = Earned Points for MCL1 + Earned Points for MCL2 + Earned Points for MCL3 + Earned Points for MCL4*

***Total Earned Points = 6 + 28.5 + 13.5 + 6 = 54***

The Maximum Points (based on comprehensive success of all closed MWO) are calculated as follows:

*Maximum Points for MCL = # of MCL Missions * 3.5*

***Max Points for MCL1 = (2*3.5) = 7***

***Max Points for MCL2 = (9*2.5) = 31.5***

***Max Points for MCL3 = (5*1.5) = 17.5***

***Max Points for MCL4 = (2*0) = 7***

*Total Maximum Points = Max Points for MCL1 + Max Points for MCL2 + Max Points for MCL3 + Max Points for MCL4*

***Total Maximum Points = 7 + 31.5 + 17.5 + 7 = 63***

The Weighted Earned Points takes the Earned Points for each MCL and multiplies it by the corresponding MCL multiplier from Table 4.

*Earned Weighted Points for MCL = Earned Points for MCL * MCL Multiplier*

***Earned Weighted Points for MCL1 = 6 * 1 = 6***

***Earned Weighted Points for MCL2 = 28.5 * 1.5 = 42.75***

***Earned Weighted Points for MCL3 = 13.5 * 2 = 27***

***Earned Weighted Points for MCL4 = 6 * 3 = 18***

*Total Earned Weighted Points = Earned Weighted Points for MCL1 + Earned Weighted Points for MCL2 + Earned Weighted Points for MCL3 + Earned Weighted Points for MCL4*

***Total Earned Weighted Points = 6 + 42.75 + 27 + 18 = 93.75***

The Maximum Weighted Points (based on comprehensive success of all closed MWO weighted by MCL) are calculated as follows:

*Maximum Weighted Points for MCL = Maximum Points for MCL * MCL Multiplier*

***Max Weighted Points for MCL1 = 7 * 1 = 7***

***Max Weighted Points for MCL2 = 31.5 * 1.5 = 47.25***

***Max Weighted Points for MCL3 = 17.5 * 2 = 35***

***Max Weighted Points for MCL4 = 7 * 3 = 21***

*Total Maximum Weighted Points = Max Weighted Points for MCL1 + Max Weighted Points for MCL2 + Max Weighted Points for MCL3 + Max Weighted Points for MCL4*

***Total Maximum Weighted Points = 7 + 47.25 + 35 + 21 = 110.25***

Finally, the awarded fee percentage is based on the ratio of the earned weighted points and the maximum weighted points as follows:

*Fee Percentage Awarded = (Earned Weighted Points/Maximum Weighted Points)*100*

***Fee Percentage Awarded = (93.75 / 110.25)*100 = 85%***

For Example #1 the Contractor would receive 85% of the $1,950,000 maximum technical performance incentive fee, or a total of $1,658,163.00 technical performance incentive fee.

## Example #2

This example assumes that all of the MWO for the NSROC III CY1 Mission Model were launched and closed out within the first 12-month evaluation period. A total of 18 missions will be assessed of the MCL defined in the Table 5 mission model and the mission outcomes provided in Table 7.

Table 7. Example #2 Closed MWO Results

| | | Mission Outcome | | | | Points Assessment | | | |
|---|---|---|---|---|---|---|---|---|---|
| MCL | Number of Missions | Number of Comprehensive Success | Number of Minimum Success | Number of Failures (not fault of contractor) | Number of Failures (fault of contractor) | Earned Points | Max Points | Earned Weighted Points | Max Weighted Points |
| MCL1 | 2 | 1 | 1 | 0 | 0 | 6 | 7 | 6 | 7 |
| MCL2 | 9 | 7 | 1 | 0 | 1 | 27 | 31.5 | 40.5 | 47.25 |
| MCL3 | 5 | 2 | 2 | 0 | 1 | 12 | 17.5 | 24 | 35 |
| MCL4 | 2 | 1 | 1 | 0 | 0 | 6 | 7 | 18 | 21 |
| Total | 18 | 11 | 5 | 2 | 0 | 51 | 63 | 88.5 | 110.25 |

***Fee Percentage Awarded = (88.5 / 110.25)*100 = 80%***

For Eample #2 the Contractor would receive 80% of the maximum technical performance incentive fee.

## Example #3

This example assumes a reduced number of MWO for the NSROC III CY1 Mission Model were launched and closed out within the first 12-month evaluation period. A total of 12 missions will be assessed of the MCL and the mission outcomes provided in Table 8.

Table 8. Example #3 Closed MWO Results

| | | Mission Outcome | | | | Points Assessment | | | |
|---|---|---|---|---|---|---|---|---|---|
| MCL | Number of Missions | Number of Comprehensive Success | Number of Minimum Success | Number of Failures (not fault of contractor) | Number of Failures (fault of contractor) | Earned Points | Max Points | Earned Weighted Points | Max Weighted Points |
| MCL1 | 1 | 1 | 0 | 0 | 0 | 3.5 | 3.5 | 3.5 | 3.5 |
| MCL2 | 7 | 6 | 0 | 0 | 1 | 21 | 24.5 | 31.5 | 36.75 |
| MCL3 | 3 | 2 | 1 | 0 | 0 | 9.5 | 10.5 | 19 | 21 |
| MCL4 | 1 | 0 | 0 | 1 | 0 | 1.5 | 3.5 | 4.5 | 10.5 |
| Total | 12 | 9 | 1 | 1 | 1 | 35.5 | 42 | 58.5 | 71.75 |

***Fee Percentage Awarded = (58.5 / 71.75)*100 = 81.5%***

For Example #3 the Contractor would receive 81.5% of the maximum technical performance incentive fee.

# ATTACHMENT 1

## EVALUATION PERIODS AND MAXIMUM AVAILABLE CORE SERVICES TECHNICAL PERFORMANCE INCENTIVE FEE (TPIF)

| Period | Start Date | End Date | Maximum Available TPIF |
|---|---|---|---|
| 1 | | | $ |
| 2 | | | $ |
| 3 | | | $ |
| 4 | | | $ |
| 5 | | | $ |